

4 wherein  $X_1$ ,  $X_2$  and  $X_3$  each is a hydrogen atom or a mercapto group;  $x$ ,  $y$  and  $z$   
5 each is an integer of 0 to 8; and in their combinations, formula (1) has at least  
6 two mercapto groups,

a polyiso(thio)cyanate compound, and a compound having two or more reactive unsaturated groups and neither a hydroxyl group nor a mercapto group in an amount of 30 to 70% by weight based on the total weight of the composition.

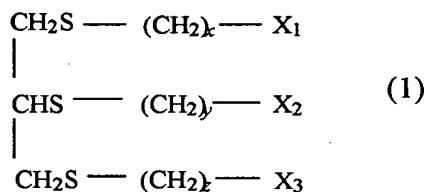
1 24. The sulfur-containing urethane resin composition according to claim 23  
2 wherein the amount of the compound having two or more reactive unsaturated  
3 groups is in the range of 30 to 50% by weight based on the total weight.

1    25. The sulfur-containing urethane-based resin composition according to claim 23  
2 which contains another polythiol compound or a thiol compound having a hydroxyl  
3 group in addition to the polythiol of formula (1).

1 26. The sulfur-containing urethane resin composition according to claim 25  
2 wherein the polyiso(thio)cyanate compound, the compound having the reactive  
3 unsaturated groups, the polythiol of formula (1), and the other polythiol compound or  
4 the thiol compound having the hydroxyl group is such that a functional group molar

5 ratio of {the iso(thio)cyanate group + the reactive unsaturated group }/{ the mercapto  
6 group + the hydroxyl group } is in the range of 1.0 to 3.0.

1 27. A sulfur-containing urethane resin composition which comprises a polythiol  
2 compound represented by formula (1):



4 wherein  $\text{X}_1$ ,  $\text{X}_2$  and  $\text{X}_3$  each is a hydrogen atom or a mercapto group;  $x$ ,  $y$  and  $z$   
5 each is an integer of 0 to 8; and in their combinations, formula (1) has at least  
6 two mercapto groups,

7 a polyiso(thio)cyanate compound, and a compound having two or more reactive  
8 unsaturated groups and neither a hydroxyl group nor a mercapto group in an amount  
9 of 10 to 70% by weight based on the total weight of the composition, and a  
10 photopolymerization catalyst.

1 28. The sulfur-containing urethane resin composition according to claim 27  
2 wherein the amount of the compound having two or more reactive unsaturated  
3 groups is in the range of 30 to 50% weight based on the total weight.

1 29. The sulfur-containing urethane resin composition according to claim 27 which  
2 contains another polythiol compound or a thiol compound having a hydroxyl group  
3 in addition to the polythiol of formula (1).

1 30. The sulfur-containing urethane resin composition according to claim 29  
2 wherein the polyiso(thio)cyanate compound, the compound having the reactive  
3 unsaturated groups, the polythiol of formula (1) and the other polythiol compound or  
the thiol compound having the hydroxyl group is such that a functional group molar  
5 ratio of {the iso(thio)cyanate group +the reactive unsaturated group }/{ the mercapto  
6 group +the hydroxyl group } is in the range of 1.0 to 3.0.

1 31. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 23.

1 32. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 24.

1 33. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 25.

1 34. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 26.

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1 35. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 27.

1 36. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 28.

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1 37. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 29.

1 38. A sulfur-containing urethane resin obtained by polymerizing the composition  
2 of claim 30.

1 39. An optical element which comprises the resin of claim 31.

1 40. An optical element which comprises the resin of claim 32.

1 41. An optical element which comprises the resin of claim 33.

1 42. An optical element which comprises the resin of claim 34.

1 43. An optical element which comprises the resin of claim 35.

1 44. An optical element which comprises the resin of claim 36.

1 45. An optical element which comprises the resin of claim 37.

1 46. An optical element which comprises the resin of claim 38.

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Contd* 47. A lens which comprises the optical element of claim 39.

1 48. A lens which comprises the optical element of claim 40.

1 49. A lens which comprises the optical element of claim 41.

1 50. A lens which comprises the optical element of claim 42.

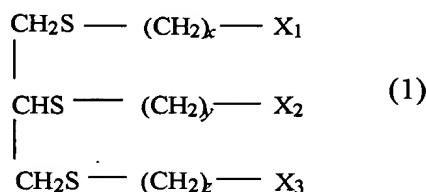
1 51. A lens which comprises the optical element of claim 43.

1 52. A lens which comprises the optical element of claim 44.

1 53. A lens which comprises the optical element of claim 45.

1 54. A lens which comprises the optical element of claim 46.

- 1 55. A process for preparing a sulfur-containing urethane resin which comprises a  
2 step of curing by irradiating UV rays or visible rays a sulfur-containing urethane resin  
3 composition comprising a polythiol compound represented by formula (1):



5 wherein  $\text{X}_1$ ,  $\text{X}_2$  and  $\text{X}_3$  each is a hydrogen atom or a mercapto group;  $x$ ,  $y$  and  $z$   
6 each is an integer of 0 to 8; and in their combinations, formula (1) has at least  
7 two mercapto groups,  
8 a polyiso(thio)cyanate compound, and a compound having two or more reactive  
9 unsaturated groups and neither a hydroxyl group nor a mercapto group in an amount  
10 of 10 to 70% by weight based on the total weight of the composition.

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- 1 56. A sulfur-containing urethane resin which is obtained by the process of claim  
2 55.

- 1 57. An optical element which comprises the resin of claim 56.

- 1 58. A lens which comprises the optical element of claim 57. --
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